

CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

VOL. IV SEPTEMBER, 1932 NO. 3

Photo from B. &. R. Vol. III

A Desert Drinking Fountain

(See page 242)

Price 35c

CACTUS AND SUCCULENT JOURNAL
Published and Owned by
THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. "The Cactaceae," by N. L. Britton and J. N. Rose, has been adopted by this journal for purposes of identification. (Membership and subscription $3.00 per year, foreign $3.00 per year.) Mail membership application and subscription to the Secretary, Margaret Kincher, 1421 Dominion Avenue, Pasadena, California.

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VOL. IV SEPTEMBER, 1932 NO. 3

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Water, Water, Everywhere!

By G. A. FRICK

The visnaga has achieved the distinction of furnishing a water supply for the thirsty in the American desert. They have been glorified as a type of desert life, ever standing ready to save lives, and worthy of our admiration. We are informed the water is good and wholesome and easily obtained. On the contrary, both the water and the pulp have little or no food value, is of a greenish color, highly mucilaginous, bitter, and due to its high content of various salts is distasteful and indeed a poor water supply.

In my travels over the deserts of the Southwest I have never seen a dead or living Ferocactus that had been used as a means of getting a drink, nor have I found the need of resorting to this method of obtaining a drink, neither have I ever met a person that has ever had the experience of having been forced to obtain an emergency drink in this manner.

Forrest Shreve, in his latest book, "The Cactus and Its Home," has this to say: "Many travelers have described the ingenious way in which the Indians of the desert secure water from the barrel cactus by cutting off the top and pounding the central pulp down into the bottom of the plant until a little water can be secured. Only the most acute thirst would be satisfied by such water, and only the most unfortunate Indian would resort to this means of getting a drink."

The contents of a visnaga is about 94% water, has the appearance of an unripe watermelon and tastes worse. Rodents will eat of the pulp when a plant has fallen or entry can be made from the roots up; whether it's the pulp, the water or a home they seek I have never been able to learn.

An article appearing in a recent number of one of the popular magazines says of the desert: "The origin of the name barrel cactus comes from the capacity of the Visnaga which contains about one barrel of water," and again, "Kegs and barrels of water standing around on the desert in plain view to thirsty animals." One would gather that all that is needed is glasses and a brass foot-rail to make the desert a paradise for the heavy drinker.

Contributions Toward a Monograph of the Genus *Dudleya*--II

By DONALD A. JOHANSEN

(all photos by Author)

CORRECTION: The heading to the key on p. 232 should have been:

Key to the white-flowered species of Dudleya.

A most deplorable tragedy which occurred but a short time ago has caused a slight change in the writer's publication plans. Mr. Ralph Hoffmann, Director of the Santa Barbara Museum of Natural History, who has recently done more than any other person to make known the flora of the "Channel" Islands, was especially interested in the Dudleyas occurring on the various islands off the Southern California coast. He had forwarded to us many forms, some previously described, others quite new. He had entertained a strong belief that there were several dissimilar forms on San Miguel Island, and it was partly for the purpose of settling this question that he journeyed to that island early in July on a collecting trip. An optimistic note to the writer sent shortly before departure contained no premonition of impending disaster. On July 21, while alone, Mr. Hoffmann fell to his death from a steep cliff on San Miguel Island.

For some time, Mr. Hoffmann was aware that the writer had diagnosed several of his collections as new species and that one of them was to bear his name. It therefore seems fitting that we proceed at once to the description of this particular form.

Dudleya hoffmannii sp. nov.

Diagnosis: Caudice brevi, rosettis paucis usque ad 200 coronato; foliis lineo-lanceolatis vel lineo-spatulatis, non plus quam 5.5 cm. longis et plerumque 1.6 cm. latis, crassissimis, glaucissimis; caulibus florentibus 15-18 cm. altis, crassis, subrubris; inflorescentia ex 4 secundis racemis supra semel-dichotomiter divisis consistente; calyce 6-7 mm. alta, ad partem inferiorem medii fisso; corolla 11-12 mm. longa, tubo 1 mm. longo, subflava. In Insula Principis, California collecta (Ralph Hoffmann). Affinitas est cum *D. septentrionali* et *D. hellero.*

Caudex short, medium thick to very thick, crowned by a few up to 200 rosettes. Leaves not very numerous, linear-lanceolate or sometimes a few of the older ones become linear-spatulate, acute, not over 5.5 cm. long and averaging 1.6 cm. broad, very thick and indistinctly keeled on the back, very glaucous. Flowering stems 15-18 cm. high, arising below oldest leaves, stout, stiff, reddish; cauline leaves numerous, the lower very early deciduous (not seen), and leaving prominent scars, the upper ones broadly ovate, short-acuminate, very thick, slightly clasping, green with red dots. Inflorescence compact, cymose, flat-topped, very glaucous, 5-10 cm. across, consisting of about four secund racemes, most of which divide above once-dichotomously; flowers set closely together on very stout pedicels, none of which is over 3 mm. (mostly 1.5 mm.) long. Calyx 6-7 mm. in length, cleft to below the middle, the segments broadly triangular-lanceolate, acute to short-acuminate (variable). Corolla segments 11-12 mm. long, united only at the base for a distance of not over 1 mm., oblong-lanceolate, keeled, acute, scarcely spreading, pale lemon-yellow, the keel greenish. Anthers yellow, 0.9 mm. long. Carpels apparently remaining united, although split to the base.

Description based on living specimens collected on Prince Island, off San Miguel Island, California, by Mr. Ralph Hoffmann, May 10, 1932. A rosette and accompanying inflorescence has been preserved for deposit in the Dudley Herbarium of Stanford University, to serve as type specimen. The accompanying photographs are of the type specimen.

The species shows considerable affinity with *D. septentrionalis* Rose, which is found near Crescent City, Del Norte county, and with *D. helleri* Rose, from Monterey county, but when living specimens of all three are compared, the differences between them are at once evident.

FIG. 1. *Dudleya hoffmannii:* type specimen, habit. x .32.

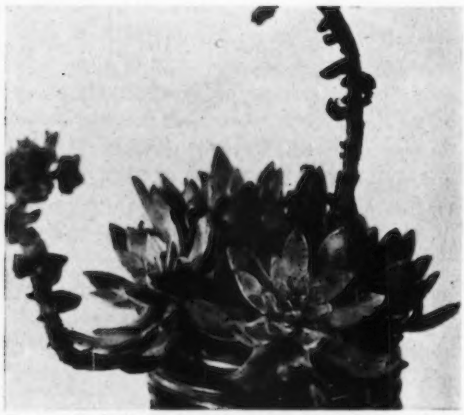


FIG. 2. *D. hoffmannii:* closer view of rosettes. x .44.

FIG. 3. *D. hoffmannii:* inflorescence. x .80.

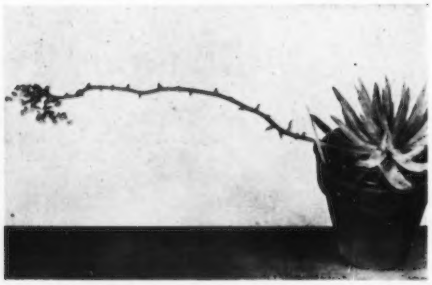


FIG. 4. *Dudleya moranii:* Habit of type specimen. The size of the plant may be judged from the fact that it is growing in a 6″ pot.

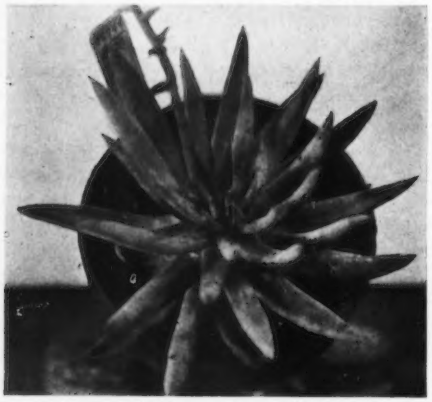


FIG. 5. *D. moranii:* rosette, as seen from above. x .40.

FIG. 6. *D. moranii:* inflorescence in side view. x .58.

Dudleya moranii sp. nov.

Diagnosis: Foliis basis prope teretibus, 8-10 cm. longis, 1.7-2 cm. latis, galbinis, basibus cum marginibus rubris, fortiter pruinosis; caule florente 4-5 dm. longo; foliis caulinis libratis, crassissimis, carnosissimis; inflorescentia ad diametrum 11 cm. crescente, lateraliter contracta, cum 3 aequalibus ramis supra semel-dichotomiter divisis; corolla 11-12 mm. longa, ad medium fissa, alba pura haud translucida; antheris rubris. Ab H. E. Gates juxta Aditum Milleri, ora maritima occidentali Californiae Inferioris collecta. Species distinctissima, dissimilis aliis nunc notis.

Solitary, caulescent (eventual size of caudices not known). Basal leaves spreading evenly, numerous, the lower ones decurrent, linear-attenuate, abruptly short-acuminate or merely cuspidate, 8-10 cm. long or probably longer in cultivation, 1.7-2.0 cm. wide at base, convex above and rounded below at base, becoming terete at tips, light greenish-yellow, strongly pruinose, light red at bases of younger leaves, very stiff and solid but brittle. Flowering stem arising from axil of a maturing leaf, 4-5 dm. long, weakly erect, much thicker above first cauline leaf than below, light reddish-pruinose; cauline leaves scattered, horizontal, very thick and fleshy, lance-cordate, half encircling the stem, acuminate, the lower about 2 cm. long, bright green, becoming yellowish-green, the reddish tips generally deflexed. Inflorescence laterally narrowed, compact, becoming 11 cm. across, consisting of three equal branches which are divided above once-dichotomously, occasionally some of the small branches divide again; all forks contain a flower in the crotch. Flowers closely set on short, slender pedicels not over 5 mm. long. Calyx cleft nearly to the base, the segments subequal, long-lanceolate, very short-acuminate, 6-8 mm. long, thin and flat, glossy green, often tipped reddish. Corolla 11-12 mm. long, cleft to the middle, the segments lanceolate, keeled, pure opaque white, the tips somewhat spreading, apiculate or merely acute. Filaments very unequal in length; the alternating shorter ones attached to the middle of a corolla segment about 3 mm. from the base, the longer ones attached at the base of the corolla tube, somewhat swollen below and as long as the corolla segments. Anthers bright red before dehiscence, oblong, 1.3 mm. long, 0.7 mm. wide. Carpels attached only at the very base, closely applied together above.

Described from two living specimens collected by Mr. Howard E. Gates (his #330) at Miller's Landing, on the west coast of Baja California (114° 05′ W, 28° 30′ N). The plants grow on the sides of canyons along the coast. The species, one of the most striking in the genus, is strongly characterized by the peculiar coloration of the rosette leaves and the pure white flowers. The cauline leaves are similar to those of *D. albiflora* Rose, in succulence, but the flowers of *D. moranii* are larger and of a purer white; in addition, the basal leaves of the two species are entirely different. However, there remains a strong suggestion that the two species are phylogenetically closely related.

This interesting and well marked species is being named for the discriminating young collector, Mr. Reid V. Moran, of La Canada, California, who has forwarded to the writer innumerable specimen plants of many species of *Dudleya* and related genera, known as well as unidentified, from many localities in Southern California and elsewhere.

The inflorescence and several basal leaves of the type specimen have been preserved for deposit in the Dudley Herbarium of Stanford University. Photographs of the type specimen in several aspects, herewith produced, accompany it.

U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT QUARANTINE

Washington, D. C., August 31, 1932.

Notice of public hearing in reference to the exclusion, or restriction on the entry, of plants and plant products used as packing materials, from foreign countries and localities.

The Secretary of Agriculture has information that certain injurious plant diseases and insect pests, not now present or not widely prevalent or distributed within and throughout the United States, exist in various foreign countries and localities, and that their introduction into or spread within the United States may result from the movement thereinto of certain plants and plant products, to-wit:

1. Rice straw and rice hulls, from all countries;
2. Wheat straw, chaff and hulls, from all countries known to have flag smut;
3. Cereal straw, chaff and hulls in general (wheat, oats, barley, rye, emmer, spelt) from all countries;
4. Corn and allied plants (maize, sorghum, broomcorn, Sudan grass, Johnson grass, napier grass, Job's tears, teosinte, *Polytoca, Sclerachne, Chionachne*) all vegetative parts, from all countries;
5. Cotton and cotton products (lint, waste, seed cotton, cottonseed and cottonseed hulls) from all countries;
6. Sugarcane, all parts including bagasse, from all countries;
7. Bamboo, leaves and small shoots, from all countries;
8. Willow twigs, from all countries of Europe;
9. Leaves of plants, from all countries;
10. Forest litter, from all countries;
11. Grasses, hay, and similar indefinite masses of weeds and herbaceous plants, from all countries;
12. Earth containing an appreciable mixture of vegetable matter, except peat, from all countries;

when used as packing materials for other commodities shipped therefrom.

It appears necessary, therefore, to consider the advisability of forbidding or restricting the importation of the plants and plant products specified from the said foreign countries and localities when used in the manner aforesaid so as to prevent the introduction

into or spread within the United States thereby of the plant diseases and insect pests referred to.

Notice is, therefore, hereby given that, in accordance with the Plant Quarantine Act of August 20, 1912, as amended, a public hearing will be held before the Bureau of Plant Quarantine of the United States Department of Agriculture, in the Auditorium of the United States National Museum, 10th Street and Constitution Avenue, Northwest, Washington, D. C., at 10 a.m., October 26, 1932, in order that any person interested in the exclusion or restriction of the above-mentioned materials may appear and be heard, either in person or by attorney.

—C. F. MARVIN,
Acting Secretary of Agriculture.

Photo by James West.

Aptenia cordifolia

By DR. DONALD A. JOHANSEN

Among the hundred and more genera segregated from *Mesembryanthemum* there are only two, each with but a single species, which possess flat and distinctly petiolate leaves. This character renders it easy to identify these two genera, *Platythyra* and *Aptenia.* The leaves again serve to distinguish between the two: the leaves of the former genus are ovate-lanceolate or lanceolate, while those of *Aptenia* are cordate (heart-shaped). There are also other minute distinguishing characters.

The writer was fortunate in securing seeds of *Aptenia cordifolia,* the only species in the genus. The seed germinated readily and the plants developed so rapidly that they commenced flowering six months later and provided an abundance of material for morphological study.

N. E. Brown, who gave the genus its name, tells us that it "is derived from the Greek. *apten,* wingless, in allusion to the absence of wings to the valves of the capsule." The specific name was originally given by the younger Linnaeus and refers to the shape of the leaves. The plant is a native of the eastern coastal districts of South Africa, "whence it was introduced into cultivation by Masson in 1774, and has now become naturalized in several of the warmer parts of the world."

Compared to many species in the other genera, this species unfortunately does not afford one anything striking to rave over, but it is nevertheless an interesting plant. To a cyto-morphologist interested in the phylogeny (evolution) of plants, it gives much added confidence in the correctness of the conclusions of N. E. Brown concerning the generic status of the various segregations from *Mesembryanthemum.* The writer is now studying the life-history of this plant, as well as of many related genera.

The flowers, the color of whose numerous petals is either a bright magenta-purple or rosy purple, are hardly over a quarter of an inch across and are borne on short pedicels in the forkings of the branches. They usually remain open for several days. My plants have been continuously in bloom for over six months.

Any member of the Society desiring fresh seeds may have them for the asking and the return postage.

Dr. Robert Pulleine, of Adelaide, South Australia, writes that he has a surplus of aloe seeds which he wishes to exchange with some member for seed of Echinocactus.

Another case of going to Newcastle for coal, is the visit of J. N. Manson, of Nogales, Arizona, which is in the heart of the Airzona cactus country. His visit to Los Angeles was for the purpose of collecting cactus that were unknown to him, and the trip netted some very fine specimens and cuttings of plants new to his collection.

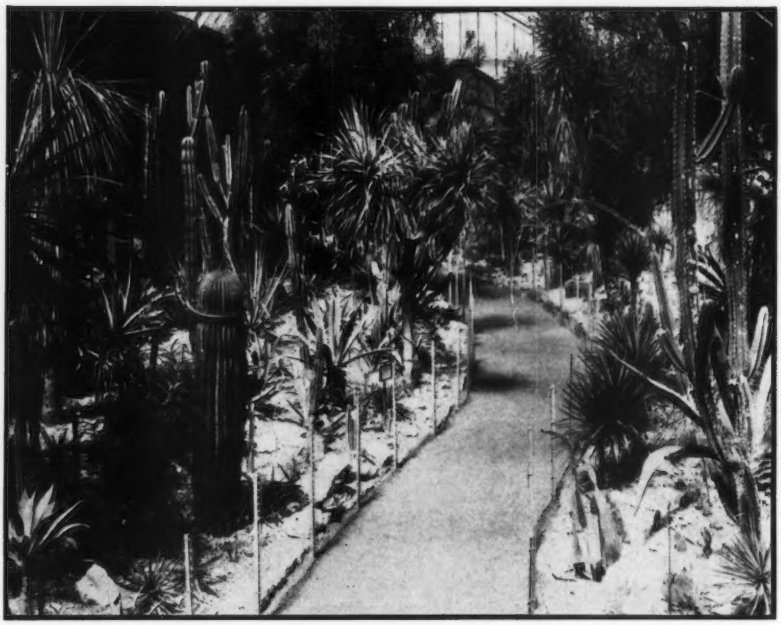
Driving across the country from Florida, Harry Frear of Miami is disposing of a load of *Eupedilanthus tithymaloides var. rosea alba.* This is the most outstanding Euphorbia of the Pedilanthus group, and while it has been very rare in the past, Mr. Frear has been raising them so successfully that they are priced within the reach of every collector.

A good cutting of *Opuntia burrageana,* rare Baja California species, will be given FREE to the first five persons who send in a new subscription to the JOURNAL. If you know some one who is interested in cactus or succulents show them your Journals and ask them to subscribe. Send their application blank with three dollars direct to the donor of the prizes—Edgar Baxter, Bellflower, California—and you will receive a cutting of this beautiful, rare *Opuntia.* Only five will be given, but later subscriptions will be sent another rare species of limited distribution.

UPPER LEFT: *Echinocactus floricornus.* UPPER RIGHT: *Echinopsis spiniflora.*
LOWER LEFT: *Echinopsis aurea.* LOWER RIGHT: *Echinocactus scopa* v. *rubra*

DO CACTI FLOWER?

The above photograph by Haage of Erfurt, Germany, and sent us by Herman Tobusch of Villa Park, Illinois, answers the often repeated question of "Why do you grow cacti?"



A section of an outstanding American Collection, Shaws Desert House, Missouri Botanical Gardens, St. Louis, Missouri.

Missouri Botanical Gardens

By LAD CUTAK, *in charge of Succulents*

One of the points of interest in the Missouri Botanical Gardens are the greenhouses with their exhibits covering a surprising breadth of plant representation.

And not the least interesting is the Succulent House. The Succulent collection, though not as large as in former years, is nevertheless the mecca of thousands of Cactus enthusiasts the world over. Interesting, beautiful and artistic indeed it is, for here is housed a collection of some of the most bizarre and grotesque denizens of the plant world.

Five years ago, a huge hailstorm damaged the collection to such a great extent that we lost most of our choice plants. The hailstones, as large as baseballs, broke all glass overhead, the falling glass either imbedded itself in the plants or cut them to pieces, and the ensuing rains did the rest. Some of the plants still bear scars of that terrible havoc of 1927.

Here and there in the collection are scattered numerous rockeries, filled with Haworthias, Gasterias, Stapelias and other South African succulents, all having representative members in this collection. Tall specimens of Euphorbias, Cereus and Yuccas are placed here and there to break up the monotony, and scattered among these are groups of Aloes, Agaves, Dasylirons, and other inhabitants of the dry and arid sections.

The group of "Old Man Cactus" draws special attention from the visitors, because it reminds them of old men with unkempt flowing hair and beards. The largest one is dubbed "Grandpa."

Another interesting plant is *Euphorbia lactea cristata*, which is about the oddest plant in the collection. There are several of them.

To the average person botanical names do not mean much, so in addition to the botanical names, we have labelled most of our plants with common names—names that appeal to the public, such as "Dumpling Cactus," "Swordfish Cactus," "Golf Ball Cactus," "Little Pickles Plant," "Hen and Chickens," etc.

Sad to say, but due to vandalism and the disappearance of smaller cacti and other succulents, it was necessary to erect a wire fence bordering the walk. But unfortunately this did not stop the depredations and later in the year it became necessary to close the house, opening it only on special occasions. The Desert House is now open again with the hope the wave of botanical larceny has subsided.

The desert house in Shaw's Garden really exhibits one of the most interesting collections of succulents, and cactus enthusiasts of the country should not fail to visit the collection when in St. Louis, or in the vicinity.

NOTE: The following 8 pages are the 13th installment of the Britton and Rose reprint of Vol. I, The Cactaceae.

The Stapelieae

13. Miscellaneous groups

By ALAIN WHITE *and* BOYD L. SLOANE

In the second article of this series, we saw that R. Brown in 1809 had divided the original genus *Stapelia,* as established by Linnaeus, into four genera: *Stapelia, Caralluma, Piaranthus* and *Huernia.* The unwieldy company, which has at all times made up the genus *Stapelia,* prompted another botanist within three years to attempt a further subdivision. This was Haworth, who, in his "Synopsis Plantarum Succulentarum" (London, 1812, and Supplement, 1819), proposed to divide R. Brown's genus *Stapelia* into ten genera, which he called: *Orbea, Stapelia* (a name he used in the very restricted sense of the true *Stapletonias,* see page 159 of the April, 1932, issue of this JOURNAL. The name *Stapletonia* itself dates from Decaisne, 1844), *Gonostemon, Tromotriche, Tridentea, Caruncularia, Podanthes, Obesia, Duvalia* and *Pectinaria.*

Haworth's *Obesia* was synonymous with R. Brown's *Piaranthus,* and was soon forgotten. *Duvalia* and *Pectinaria,* as we know, have been accepted and retained by botanists in general. *Stapelia* was duly restored to a much more inclusive content, as accepted today, and the other six of Haworth's names have been retained by botanists only as sections within the genus *Stapelia.* In "Hooker's Icones Plantarum" (London, 1890) N. E. Brown pointed out their limitations, due to frequent overlapping, but he still retained them in his classification and even added one additional section (*Fissirostris*). Later in the "Flora Capensis", 1909, he gave them all up and stated that "the characters of *Stapelia* and those upon which Haworth established his genera . . . so completely pass into one another, that it becomes impossible to find any real distinguishing characters to separate them from *Stapelia* when the whole of the known species are reviewed". Berger, however, retained all the sections as well as he could, and we have seen the convenience of these sections, so far as the *Orbeas* and *Stapletonias* are concerned.

On page 235 of the August CACTUS JOURNAL mention is made of *S. deflexa* representing a group which have the outer horn or wing of

Photo by Havens

FIG. 69. *S. dinteri*

the inner corona replaced by a mere thickened knuckle. Haworth established a whole genus to provide for just such species with knobby excrescences as *S. deflexa,* and from a Greek word meaning knob or knee, he coined the name *Gonostemon,* "knee-crown or knobby-corona". These knobs are very different from the broad wings of *S. hirsuta* and *S. grandiflora.*

From the "True Stapletonia" form, *Eustapletonias,* the *Gonostemons* separate themselves more and more into some very singular and beautiful species. *S. dinteri* Brgr. is one of these, see FIG. 69. It is one of the species discovered by Mrs. Dinter in the Little Karas Mountains of South West Africa in October,

1913. The masculine form of the specific name shows that Alwin Berger attributed its discovery to Professor Dinter, from whom he received it,

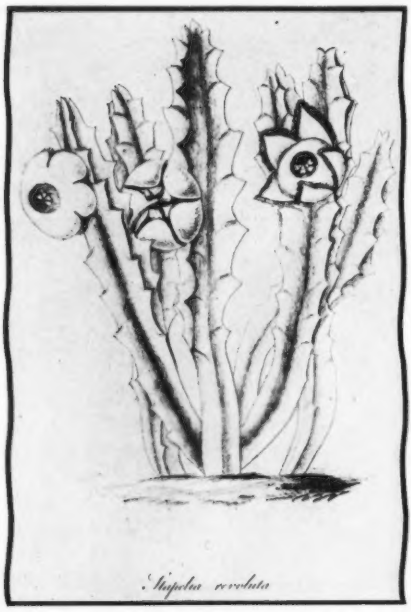


FIG. 70. *S. revoluta*

but Professor Dinter has been very affectionate in telling us of his wife's botanical work on this expedition. "I am greatly indebted to my wife," he says, "who collected for me in Klein Karas, in October, 1913, and there discovered eleven brand new species, besides many already known at the Cape but new in S. W. Africa".

Stapelia dinteri is a delightful plant with very characteristic tapering stems. The four ribs are very marked, each divided into oblong segments, from whose upper edges the little rudimentary leaves project. The flowers are a little over an inch in diameter, the corolla lobes edged with velvet-red-brown, and inside this border the color is yellow-green, thickly strewn with tiny red-brown dots. Even a photograph gives a good idea of the delicacy of these flowers. The entire corona is black and sunk in a little depression at the center of the corolla. The inner corona is a long thin horn, with a much smaller, thick knob sticking out from its base. If the *Gonostemons* in general may be said to have knee-like inner coronas, then we can say of *S. dinteri* that it is peculiarly knock-kneed!

A small but very curious group comprises what Haworth called the *Tromotriches*. They resemble the *Orbeas* as to corona and suggest the *Stapletonias* somewhat as to their stems, but the flowers differ from the *Orbeas* in having no ring and from the *Stapletonias* in having the inner face of the corolla absolutely smooth. There are only three species. *S. revoluta* Mass. (Fig. 70) is the type of this group, a species not yet introduced into our country. This picture is a copy of Masson's original drawing of 1792. The color is wine-red on the corolla lobes, growing much paler towards the center. The lobes are fringed, as in all the *Tromotriches*, with very vibratile hairs. Indeed, the name "*Tromotriche*" means "trembling hairs" in Greek. The lobes roll back conspicuously, whence the name of the "revolute Stapelia", *S. revoluta*. The plant is from the Karroo.

A hybrid form, supposed by N. E. Brown to be a combination of *S. revoluta* and *S. deflexa*, is the "handsome Stapelia", *S. bella* Brgr. This species dates only from 1902 and was found by Alwin Berger at La Mortola. It appears to have originated there as a hybrid or in some English garden. The flower is dark brown-red, very shiny, and the lobes are fringed with light brown or white hairs.

Photo by Sloane

FIG. 71. *S. incomparabilis* x .50

Many plants in American collections are called *S. bella*, but a true specimen is extremely rare as yet. The true *S. bella* is recognizable by its having a cushion at the base of the corolla, overlapping the throat of the flower, so that the central corona is seen as though it were

peeping through a little round window. The corolla lobes roll far back, as they do in *S. revoluta*, concentrating attention on this odd modification of a ring, whose real form can only be seen clearly when the flower is cut in cross-section.

This *tromotriche* cushion, overlapping the corona, may be easily studied in the "Stapelia beyond compare," *S. incomparabilis* N. E. Br., a species of unknown origin, probably a hybrid, which has become extremely frequent in this country (Fig. 71) and is usually found under the meaningless name *S. glabra* or the like. The stem appears glabrous but is slightly pubescent when seen under a lens. The color of the flowers is purple-red, the outer surface of the corolla glabrous, the inner somewhat rugose and hairy in the throat only. The cushion is very marked.

Another small group among the miscellaneous *Stapelias* is *Tridentea* Haw., so called because a characteristic of the half dozen species is that the lobes of the outer corona are deeply three-cleft, the central tooth larger than the side teeth and in some cases itself again toothed. The stems are smooth, the ribs with small teeth and rather noticeable rudimentary leaves. The flowers vary in size, between one and three inches, and they have no ring whatever on the corolla.

The smallest species is the "verdant Stapelia," *S. virescens* N. E. Br. It was discovered in the days of Sir Thomas Barkly, in the Karroo, "on the way to the diamond fields." The flowers are small, yellowish-green, quite hairless, but with minute papillae on the inner corona lobes. It has not yet flowered in this country, but we may well look forward to its doing so, for a correspondent at the Cape writes: "A photograph in color of *S. virescens* in full flower would cause a sensation."

Another *Tridentea* of promise to us is the "gem-flowered Stapelia," *S. gemmiflora* Mass., with stem like *S. virescens*, but much larger flowers, three inches or more broad, the corolla violet-brown, marbled with lighter spots of the same color or a few yellowish markings. It is widely scattered at the Cape.

The last *Tridentea* of which plants are found in this country is the "thick-stemmed Stapelia," *S. pachyrrhiza* Dtr., from Great Namaqualand in South West Africa. This species is perhaps unique among the *Stapelias* in that it grows exclusively in the open and does not seek the sheltering shadow of bushes. The flower is reddish on a yellow ground and about three inches in diameter.

Another strange plant from Great Namaqualand is "Rusch's Stapelia," *S. ruschiana* Dtr.,

Photo by Prof. K. Dinter

FIG. 72. *S. ruschiana*

named by Professor Dinter for his friend Ernst Rusch, of Farm Lichtenstein near Windhoek, South West Africa, from which California succulent collectors have received many interesting seeds. It is the only known example of the group of *Caruncularia*, established by Haworth to provide for *S. pedunculata* Mass., a plant from Little Namaqualand no longer in cultivation. This group (if two species can constitute a group) is characterized by having the inner corona lobes composed of two horns, both recurved and each thickened at the tip to a large knob covered with sharp angular projections. "Caruncula" in Latin means a small lump of vegetable matter, or flesh, and the name doubtless refers to these knobby tips of the inner corona horns. The flower of *S. ruschiana* (Fig. 72) is broadly bell-shaped, about an inch and a half wide. The color scheme is very singular. Inside the corolla it is dark red at the center, thickly covered with papillae. Then comes a whitish band with dark red dots, which extends partly up the corolla lobes. And finally the upper two-thirds of the lobes are dark red-brown. Between the lobes are thick bunches of dark red-brown clavate hairs. Our illustration is from a photograph by Professor Dinter of a freak flower with six lobes.

Cactus Crazes

By MYRTLE SHEPARD FRANCIS

To the present generation the Cactus Craze through which we are passing is a new horticultural phenomenon, but previous to this there have been two distinct attacks of the fever which died out.

Among my most treasured possessions are Loudon's Encyclopedia of Plants, The John M. Coulter Contributions 1894-96, the Report of William Edwin Safford 1909, the Miscellaneous Papers of Rose, Britton, Coulter and Collins 1909, together with a number of other cactus journals and catalogues dating from 1891 to 1912.

Loudon's Encyclopedia, original, clever, simple, concise book, old fashioned as it is, is still a delight to the horticulturist. It was published in 1824, revised in 1829 and supplemented in 1855.

Vast numbers of plants now common in our gardens were brought into Europe and England between 1750 and 1850, among them the succulents, Euphorbias, Stapelias and Cacti. From Loudon's we learn that 132 varieties of Cacti, 149 Euphorbias, 19 Sempervivums, 69 Stapelias, 98 Aloes, 290 Mesembrianthemums, 43 Crassulas, 17 Cotyledons, 42 Sedums, 18 Yuccas and 7 Dracenas were disseminated in England prior to 1826. Many of these introductions were doubtless due to the explorations of Humbolt and Bonpland.

The following excerpt is taken from the first page of Watson's Cactus Culture:

"About the year 1830, Cacti began to be specially patronised by several rich plant amateurs, of whom may be mentioned the Duke of Bedford, who formed a fine collection at Woburn Abbey, the Duke of Devonshire, and Mr. Harris, of Kingsbury. Mr. Palmer, of Shakelwell, had become possessed of Mr. Haworth's collection, to which he greatly added by purchases; he, however, found his rival in the Rev. H. Williams, of Hendon, who formed a fine and select collection, and, on account of the eagerness of growers to obtain the new and rare plants, high prices were given for them; ten, twelve, and even twenty and thirty guineas often being given for single plants of the Echinocactus. Thus private collectors were induced to forward from their native countries—chiefly from Mexico and Chile — extensive collections of Cacti.

"This reads like what might be written of the position held now in England by the Orchid family, and what has been written of Tulips and other plants whose popularity has been great at some time or other."

While many cared for these plants at that time there were those who disliked them, one being Dickens. He describes Paul Domby's nurse, Mrs. Pipchin by saying, "Among her failings was a fondness for cactus. In the window of her parlor were half a dozen specimens writhing 'round bits of lath like hairy serpents." Evidently he had not seen the glorious blooms of the various "caseknife" and "lobster" cactus, then common in the English cottage windows.

The Cactus mania "waxed and waned," flickered and died out, but many real lovers of the plants remained. In the interest of science European collectors still traveled the dangers of ocean and desert to search for new and rare species. Many American scientist-collectors were then in the field, among them Engelmann, Parry, Wright, Siler and Bigelow, who were sending their discoveries to the Gray Herbarium at Harvard, the Division of Botany, Department of Agriculture and to the Missouri Botanical Gardens. Dr. Trelease, Director, did much to popularize these plants. The American public was becoming educated. A taste for these new and curious forms of plant life was developing. It was ready for an attack of Cactus Fever which broke out with great virulence in the eighties.

The Baltimore Cactus Society was incorporated in 1890. Journals were published, among them the Sharon, Pa., Cactus Guide and the Baltimore Cactus Journal, 1895. Hundreds of amateur collections were made. Firms specializing in cactus sprang into existence. Cactus gardens were fashionable, potted collections were "the thing." "Do you or do you not like cactus?" or "ugly, sticky things" were common topics of conversation. Among the firms was the Columbia Cactus Company with headquarters in Louisville, Ky., and branches in Arizona, California, Texas, Colorado and Mexico.

Theodosia C. Shepard, Ventura California, first listed cacti in 1891. Anna B. Nickels, Loredo, Texas, collector and dealer received the gold medal for her exhibit at the Chicago World's Fair in 1892. A. Blanc, Philadelphia, Pa., whose booklet "Hints" on Cacti is still used as a reference. Frank Weinberg, Woodside, L. I., received first prize at the First Exhibition of the New York Botanical Gardens. His catalogue with many original illustrations is exceptionally interesting. His entire collection was bought by the late Arthur Letts and was one of the sights of Hollywood about twenty years ago. J. A. McDowell and J. Baumé of Mexico City supplied many dealers with rare specimens and the great cactus firm of Frederic Adolph Haage, Jr., imported from South America, Mexico and West U. S. to reship all over the world. His 1900 catalogue features his many medals dating from 1847 to 1899 when he received six "firsts" at the St. Petersburg International Horticultural Show. The medals form a frame about the following naive statement "The especial Honor was accorded me of being presented to his Imp. Majesty the Czar!" Verily, times have changed since that second Cactus Craze.

Meanwhile N. L. Britton and J. N. Rose were compiling, regrouping, classifying and systematizing preparatory to their monumental work, now world authority, THE CACTACEAE.

The great Huntington and Riverside collections came into being to dazzle the horticultural world with their numbers of rare specimens.

The embargo on Mexican cactus put many firms out of business, though the fever had about run its course and again the craze died out. This time many amateur collections remained and hundreds of people retained their interest in these extraordinary plants.

The 1830 and "Gay Nineties" Cactus Crazes were tame affairs to the orgiastic one from which we are just recovering. Never has there been such a desecration of plant life. The desert has been denuded of its cactus growth by vandalistic dealer collectors who peddled it about the country. It became necessary to pass laws in order to prevent cactus from being collected out of existence.

Today, every Mediterranean, Spanish or early California house must needs have a cactus garden, though heaven knows why, as the *Opuntia vulgaris* and *O. ficus-indica* only were grown by the early Californian for purely economic reasons. He ate the fruit, made syrup of the juice and used the sap of the plant for his white wash.

Many fine scientific and amateur journals have been published and are still being published, wonderful private and public collections made, splendid shows held, societies formed, lasting friendships made and life greatly enriched for thousands who have become interested in this fascinating family of plants.

The response to the offer of seed of *Gasteria armstrongii* Schonl. donated by Dr. Cammerloher of Vienna left no doubt that our members are intensely interested in rare Gasterias. Requests for seed, at this writing, are still coming in from all parts of the country. On account of the heavy demand it was necessary to restrict the individual packages to five seeds each. However, this should be enough to give the species a good representation in American collections.

Some of the members who have received seed may be in a position to make a return for the donation, by trying to procure for Dr. Cammerloher any of the following species, plants or seeds, which the University of Vienna is anxious to acquire: *Sarracenia variolaris, Sarracenia courtii, Darlingtonia, californica, Cephalotus* and *Dionaea.* Some of these, which are all insectivorous plants, may occur within collecting distance of one or the other of our members.

JAMES WEST.

CATALOGUES RECEIVED

An interesting illustrated Cactus Catalog has just been received from the Shiner Seed & Plant Co. of Laredo, Texas. Unusually interesting are some of the original cuts from A. Blancs catalog issued in Philadelphia in the "gay nineties." Mr. Shiner was fortunate in obtaining illustrations from the well known Canadian fancier, J. H. Callander of Peterborough, Canada. Mr. Shiner operates one of the southernmost nurseries in the United States.

Collection of James West x 0.5
Acrodon billidiflorus (L.) N. E. Br.

Acrodon bellidiflorus (L.) N.E. Br.

From the point of view of garden value this plant is entitled to rank very high among the Mesemb-group. It is of compact, stemless habit, not too small to be seen, nor too large and untidy for the rock garden. The leaves, attractive at all seasons, are of a pleasing shade of dark grey-green, and the flowers are among the prettiest of their kind, produced in fair abundance, in effect of a fine light pink, and when we say pink, we do not mean pinky-purple,-magenta,-mauve,-lavender nor any of those tints, unpleasing to many eyes, that so often masquerade under that name. With their long, full, elegantly spreading petals they much more than justify the specific name of "daisy-flowered."

The genus *Acrodon* N.E.Br. was established* to include this old species of Linnaeus' and a few others, originally classed as varieties of it. The technical characters distinguishing it are: Leaves trigonous, tapering to an acute apex, with small teeth on keel near apex, stamens erect, stigmas 5, plumose, ovary inferior, valves of capsule suberect or inflexed, expanding-keels diverging, with awn-like points; roofing-membranes stiff, tubercles present, large, compressed.

A. bellidiflorus has flowers up to 1¾″ wide, blush-white petals streaked with pink and with a pink mid-line, pinkish stamens, yellowish anthers, pedicels not quite equalling the leaves which are from 2 to 3″ long.

*Gard. Chr. Jan. 1, 1927.

Rock Gardens

An address before the Cactus and Succulent Society of America

by CHARLES GIBBS ADAMS

To the absorbing topic of Rock Gardens we can now devote less than an hour; yet a day would not be long enough to give thought to all its problems.

One should study matters of mechanics and efficiency; neglect of such study has left many a rock garden on the Pacific Coast a very poor affair, while matters of art and good design, and simple beauty deserve still further study.

It is our duty to lead the way in the preservation and in the creation of beauty. Putting our minds and hearts and souls to work, an earnest group like The Cactus and Succulent Society is a powerful stimulant for the amateur cactophile and succulent grower.

But I wonder; for you ask now about that one form of beauty, the Rock Garden, in our own "line."

Imagine, in this land of abundant and most beautiful rocks, the use of imitation boulders of cement! Nothing bogus ever was good or ever will be! Further, just imagine those rustic fences and hummerhouses of tree logs made of concrete! And when they do use real rock, imagine their white washing them or painting them raspberry pink and blue! Imagine their building half domes, standing in the air and called "grottoes," of pink and yellow stone, even though real, combined with hunks of green glass! Imagine nice white Colonial rose arches in the middle of cactus gardens. But such things are all on parade; and they are an insult to the public.

Nor have the owners of private estates been guiltless. On no less famous estate than Mr. Huntington's, the magnificent cactus collection was first planted on the shores of a lake, looking very unhappy indeed. But that fine artist, our own Mr. Hertrich, finally rescued it.

When we laid out the Kellogg Arabian Horse Ranch, (recently given to the University of California), and had the pleasure of making the extensive Aloe Garden there, the minute I was off the place, the gardeners rushed in and filled the bare spots, left for growth, with nice juicy snap dragons and stocks. You may be sure they came out in a hurry.

Speaking of that Aloe Garden, it is a significant fact that, although it was but six years ago, such a thing as that planting of Aloes, Yuccas, Cotyledons, Mesembryanthemums, etc., was an absolute novelty, hardly ever heard of. Now it is nothing uncommon, except in size, thanks to the "Cactus craze" and the splendid work of the Society.

Let us get to the mere mechanics of the rock garden, whether it be a rockery, or a succulent garden under trees, or one of those English planted dry walls that are such a delight.

Almost always the first requisite is good drainage, so often ignored with disastrous result. Such is easily achieved with a good bottom layer of rock, not too coarse, and preferably separated from the upper soil with a layer of sand.

The second requisite, except where the planting is to be of cactii, which are seldom heavy feeders, is good rich soil, with plenty of humus. That is easily supplied with generous use of, preferably, leaf mould, or peat and peat moss.

Where the Rock Garden is simply a rockery, it should not be one of those unnatural structures, we see, a dome of thick-set stones, and likely hard arroyo rocks at that; planted with a confused and varied "collection." Let us study how nature makes her rockeries, in broad, low irregular mounds, studded with groups of stones, and softened with masses of but a few varieties of plants, preferably largely succulents.

Where the Rock Garden is a dry wall, let it have a generous batter, or backward slant, and ample pockets for the plants. If you think it should be unnecessary for me to dwell upon the need,—both for art and for safety,—of having the larger stones at the base, and diminishing their size toward the top, just look around and see how frequently that simple law of good taste and good sense, too, is violated.

Where the Rock Garden is but a bit of woodland scenery brought in to beautify the space under garden trees, let the rocks, again, be scattered naturalistically; and choose them for the beauty of the lichens or mosses they carry; and plant them with such happy growths as ferns and bluebells and begonias, and all such things they use so beautifully in England. It is easy enough to give them artificial rain with the sprinkler system.

On the other hand, where the Rock Garden is made as the setting for a Cactus collection, let it resemble as much as possible a stretch of desert transplanted; and let it have a surface, at least, of good desert sand, for reasons of both beauty and business.

In any of these types of Rock Garden, let us employ the beautiful rough tan and dull yellow and brown stones so abundant in the region, and shun the sparkling white ones that belong in quarries only; and, especially the hard, cold, round gray granite arroyo stones, that belong in river washes and nowhere else.

There is only one thing worse than a rockery of those; and that is one of our California cobble stone walls, well cemented and left unplanted. There is no worse "art."

The prime reason for so many disappointments in the plantings of Rock Gardens,—and, for that matter, in gardens in general,—is the failure to select plants for any one collection that require about the same amount of water. In that matter, the succulents, usually, are much more accommodating to mix with foreigners than are the Cacti. For instance, most of them will prosper well along with such flowery beau-

ties as the English spice pinks, blue nepetas, Mexican primroses, lopezias, etc.

That same wall illustrates well, also, my point of planting not too thickly; for when all the stone becomes hidden, half the charm is lost.

Speaking of water, let me add here that through *warm* months Cacti will stand a great deal more water than is commonly believed, and if they get it, there is much more growth. That act is the prime reason for the amazing growth in Mr. Orpet's great collection at Santa Barbara. But they must not have wet feet in the cold months.

Let us begin to realize that a great many succulents thrive well in shade. And let us bear in mind that no class of plants can give us such variety in foliage colors as they do,—not in sickly yellows like the freaky Golden Privet,—but beautiful silver grays like the Dudleyas and Cotyledons, rose color like some of the Sedum tips and *Echeveria metallica,* bronze like *Sempervivum arboreum atropurpureum,* and so on. Beside, the conventional designs in their leaf groupings are not equalled in any other group of plants. The Mexicans, who know them best, have a collective name for the whole race, that tells in a word the story of their most accommodating trait; "Siemprevivas," the "everliving."

Euphorbia? Acacia?

The symposium on Mr. Croizat's mysterious plant from Holland keeps increasing. Dr. Brown has said *Euphorbia lignosa,* Mr. Frick, *Acacia karroo;* now comes a suggestion from Vienna, made by Dr. H. Cammerloher, saying *Euphorbia brachiata.* We quote from his letter: "The picture of the Euphorbia in CACTUS AND SUCCULENT JOURNAL III, April 1932, p. 171, agrees perfectly with a specimen of *Euphorbia brachiata* in the Vienna Botanical Garden, which was collected by Professor von Wettstein in 1929 near Uis, South West Africa. A figure of this plant may also be found in ENGLER & DRUDE, VEGETATION DER ERDE IX, 1, 2, p. 522 after a photograph by Marloth."

Dr. Cammerloher also sends a copy of the special Cactus Number of GARTENZEITUNG DER OESTERREICHISCHEN GARTENBAU GESELLSCHAFT IN WIEN, June 1931, which appeared in honor of the General Meeting and Cactus Show of the German Cactus Society held in that famous old city last year. In it we find an article by Dr. Cammerloher on the South African house of the Botanical Garden in Goettingen, one of the illustrations to which shows a group of plants of the high Karroo succulent association, among them *Euphorbia brachiata.* Unfortunately, being only one of the elements in a group of plants it is not sufficiently large or clear to reproduce here, but it does indeed bear a strong resemblance to Mr. Croizat's plant.

A word or two may not come amiss as to the collections at the above-mentioned ancient and renowned German seat of learning. In 1929-30 Professors Fritz v. Wettstein of Goettingen and Richard Wettstein of Vienna undertook an expedition to South and Southwest Africa, the results of which were so extensive that a special house adapted to the growing of South African succulents had to be constructed to take care of the living plants collected. The illustrations in the above article show the interesting way in which the plants are grown, and the more than impressive number, size and rarity of the specimens. The plants are all planted out in the benches instead of being potted, an evidently successful departure from the usual practice, the center bench, 7½ feet wide, being devoted to naturalistically arranged rock garden groups of specimen plants in ecological associations. One can distinguish immense specimens of several species of *Cissus, Pachypodium, Sarcocaulon, Pelargonium, Hoodia, Euphorbia* and *Aloe,* planted on rocky outcrops, also level, chip-strewn areas with groups of *Conophytum, Lithops* and other mimicry-forms of Mesembryanthemum, together with mimicry-*Crassulas* and -*Anacampseros* from Namaqualand, plants and rocks being, with the help of photographs, exactly rearranged as they grew in nature.

The side-benches are devoted to the large collections of smaller plants.

The issue also contains other interesting articles and photographs of the collections at Schoenbrunn (Vienna) and Berlin-Dahlem.

—J. W.

EDITOR'S NOTE: Mr. Croizat writes that the plant in question has been identified by Dr. Herre of Stellebosch as *E. lignosa.* He also states that the plant is grown under that name in Rumania.

THE CACTUS AND SUCCULENT SOCIETY OF AMERICA

An International Society for all lovers of Xerophytes
Headquarters: LOS ANGELES, CALIFORNIA

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The Range of *Opuntia prolifera* Engelm.

By RALPH HOFFMAN

The writer has seen no published statement of the exact range in Southern California of *Opuntia prolifera**. Jepson gives the range of the species as "San Pedro—San Diego." Britton and Rose give "Southern California" Brandegee (Zoe, I, 137 1890) lists the species from Santa Catalina and San Clemente Islands.

It is perhaps worth while to put on record several stations for the species in the northern part of its range. A colony of flourishing plants is found on a rocky slope directly over the ocean beach about a mile north of Ventura; this is the most northern station known to the writer. The species is frequent along the extreme summit of the westernmost section of Anacapa I., directly over the ocean. A small colony is found on the southeast end of Santa Rosa I., near the sea. On Anacapa I. this cactus is often covered with such a dense growth of lichen that the host plant is concealed.

*See B. & R. Vol. I, pp. 69 and 70 (with Vol. IV, No. 2 THE CACTUS JOURNAL).